BioAxis

Complete Comprehensive BioAxis DNA Report

Prepared for:

Sample Client

Date:

27th October, 2024

Please Note: Findings from this report are generated from your “myDNA Nutripath DNA lab test”. It is designed to be used in conjunction with the source document for the best interpretation.

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How to read this report:

This report translates your genetic findings into clear, practical, and educational insights.

It is designed to help you understand how your genetics may influence biological pathways, resilience, and areas that benefit most from supportive lifestyle changes.

This is not medical advice, diagnosis or treatment.

This report is intended to educate and inform, and is based on all lab findings from Nutripath Labs.

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Executive Summary – Key Priorities:

Your genetic profile shows a **high-capacity baseline with several conditional bottlenecks**, meaning you function very well when core systems are supported but experience disproportionate disruption when specific inputs are neglected. One recurring theme is **elevated nutrient demand under stress**, particularly for choline, magnesium, vitamin B6, selenium, and cruciferous phytonutrients. A second major theme is **detoxification sensitivity**, especially related to pesticides, glyphosate, heavy metals, xenoestrogens, and combustion by-products, driven by reduced glutathione-related protection and slower clearance pathways.

A third theme involves **neurotransmitter balance and stress perception**, where higher dopamine responsiveness, altered glutamate–GABA modulation, and heightened fear response can amplify anxiety, sleep disruption, and addictive tendencies if lifestyle inputs are misaligned. Finally, **estrogen detoxification and prostate protection** emerge as hormone-related priorities that depend heavily on gut health, fibre intake, and antioxidant availability rather than baseline hormone production.

These systems amplify each other. For example, inadequate detoxification increases oxidative stress, which then impairs neurotransmitter balance and worsens sleep quality. Poor sleep further depletes magnesium and choline, worsening anxiety and appetite regulation through ghrelin signalling. Over time, this can create a loop where stress, cravings, and inflammation reinforce one another despite otherwise strong baseline genetics.

One **non-negotiable priority** for you is **consistent support of glutathione production and gut-mediated detoxification**, because this single lever influences hormone balance, brain chemistry, immune resilience, and DNA protection simultaneously. Another non-negotiable is **regular cardiovascular exercise**, which your genetics require more than average to stabilize mood, dopamine signaling, and stress perception.

A concrete failure mode helps illustrate why this matters. If you experience sustained stress, high pesticide exposure from non-organic foods, irregular sleep, and low vegetable intake at the same time, glutathione demand rises while production drops. This slows estrogen clearance, increases excitatory neurotransmitters, worsens sleep, increases appetite via ghrelin, and reduces mental resilience. The result is not one isolated symptom, but a multi-system slowdown that feels like anxiety, poor recovery, brain fog, and reduced motivation—despite no single "disease" being present.

When nutrition, movement, and environment are aligned with your genetics, the opposite occurs. Your ApoE 3/3 status, dopamine responsiveness, and carbohydrate tolerance allow you to maintain strong cognitive performance, metabolic flexibility, and long-term resilience well into adulthood.

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Primary Genetic Pathways & Genetic Drivers:

Important context:

Your genetic influence is pathway-driven and reflects the combined functional outputs of multiple genotyped variants. Not every contributing gene is listed in summary outputs, and many interpretations are based on aggregated pathway behaviour rather than single-SNP effect sizes.

1. Glutathione Production & Detoxification Pathways (Genetic Variants: GST, GPX, selenium-dependent enzymes)

What this pathway means:

This pathway governs how efficiently your body neutralizes toxins, heavy metals, pesticides, and oxidative by-products of metabolism. It relies heavily on glutathione availability and antioxidant recycling.

Why it matters:

Your report shows reduced protection against mercury, arsenic, lead, mycotoxins, benzo(a)pyrene, aromatic amines, and glyphosate. This does not mean unavoidable harm, but it does mean detoxification capacity can be exceeded more easily under exposure. When glutathione is depleted, oxidative stress rises, DNA repair slows, hormone metabolites accumulate, and neurotransmitter balance shifts toward excitatory states. Over time, this increases inflammation and cognitive strain.

Practical actions:

Daily intake of selenium-rich foods, cruciferous vegetables, vitamin C–rich produce, and adequate protein to supply glycine and cysteine becomes foundational. Supporting gut health and choosing organic foods where possible reduces incoming toxin load.

Lifestyle actions that reduce combustion exposure and smoking environments are particularly impactful for you.

Notes / uncertainty:

Specific SNP effect sizes are not individually reported; this interpretation reflects cumulative functional outputs across detoxification pathways.

2. Choline–Betaine–Methylation Axis (Genetic Variants: PEMT, BHMT, MTHFR-related pathways)

What this pathway means:

This axis supports methylation balance, neurotransmitter production, liver fat metabolism, and homocysteine regulation.

Why it matters:

You have a higher-than-average requirement for choline and betaine, alongside increased B6 demand and folinic acid need. When these inputs are insufficient, memory, REM sleep, anxiety regulation, and liver detoxification efficiency all decline together. Choline depletion is especially relevant for you during endurance exercise, stress, or use of anticholinergic medications.

Practical actions:

Regular intake of eggs, liver, fish, and betaine-rich vegetables stabilizes this pathway. Maintaining consistent intake matters more for you than occasional high doses. Exercise recovery and sleep quality both improve when this axis is supported.

Notes / uncertainty:

This interpretation is based on aggregated functional outputs rather than single-variant determinism.

3. Neurotransmitter Balance & Stress Response (Genetic Variants: COMT, ANKK1, GAD-related outputs)

What this pathway means:

This pathway governs dopamine signaling, reward sensitivity, glutamate–GABA balance, and stress perception.

Why it matters:

Your profile shows higher dopamine responsiveness with lower receptor density, increased fear response, and reduced glutamate modulation. This combination can enhance motivation and performance but increases vulnerability to anxiety, overthinking, addictive behaviors, and sleep disruption when stress accumulates.

Practical actions:

Cardiovascular exercise, magnesium sufficiency, balanced blood sugar, and consistent sleep are essential stabilizers for you. Overstimulation from excessive caffeine, sugar, or media exposure disproportionately affects your nervous system.

Notes / uncertainty:

Neurotransmitter outcomes are highly environment-dependent and respond strongly to lifestyle inputs.

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Estrogen Detoxification & Prostate Protection Pathways

What this pathway means:

These pathways regulate how efficiently estrogen metabolites are cleared and how prostate tissue is protected from oxidative and inflammatory stress.

Why it matters:

Despite above-average testosterone levels, your estrogen detoxification capacity is reduced. This means environmental estrogens, poor gut function, and low fiber intake have amplified effects. Over time, this can influence inflammatory tone and prostate resilience.

Practical actions:

Fiber, cruciferous vegetables, magnesium, selenium, and gut-supportive foods are central. Avoiding xenoestrogens reduces upstream burden on this system.

Notes / uncertainty:

This reflects cumulative pathway behavior, not a single gene effect.

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Methylation Support:

A) WHAT THIS MEANS

Your methylation system functions well overall but becomes stressed when choline, B6, folinic acid, or betaine intake is inconsistent. Under demand, homocysteine handling and neurotransmitter synthesis can become inefficient.

B) WHY THIS MATTERS BIOLOGICALLY

Methylation supports DNA synthesis, neurotransmitter balance, detoxification, and cardiovascular protection. When methyl donors are insufficient, BH4 availability drops, affecting serotonin and dopamine balance. This can increase anxiety, impair sleep, and reduce stress tolerance. Methylation also intersects with gut health and estrogen clearance, linking digestion to hormone balance and mental health.

C) WHAT YOU CAN DO

Prioritize choline-rich foods daily, not sporadically. Maintain steady B-vitamin intake through whole foods. Avoid long fasting or extreme dieting that increases methylation demand. Support gut health to reduce methylation burden from endotoxins.

D) WHY THIS IS SPECIFIC TO YOU

Based on your reported higher choline and B6 requirements and folinic acid need, methylation stability matters more for you than for individuals with lower pathway demand. For you, inadequate methylation support shows up first as anxiety, poor REM sleep, and reduced stress resilience rather than lab abnormalities.

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Hormone Support:

A) WHAT THIS MEANS

You have strong baseline testosterone production but reduced estrogen detoxification and prostate protection capacity.

B) WHY THIS MATTERS BIOLOGICALLY

Hormone balance is determined as much by clearance as by production. When estrogen metabolites accumulate, inflammatory signaling increases and hormone receptors become dysregulated. This can affect mood, energy, and long-term tissue health. Gut health directly influences hormone recycling, linking digestion to endocrine stability.

C) WHAT YOU CAN DO

Increase prebiotic fiber, cruciferous vegetables, and antioxidant intake. Minimize exposure to plastics and pesticides. Maintain regular exercise to support hormone clearance.

D) WHY THIS IS SPECIFIC TO YOU

For you, hormone imbalance risk comes from **clearance inefficiency**, not low production. This makes environmental exposures and gut function disproportionately important.

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Mental Health & Cognitive Performance:

A) WHAT THIS MEANS

You have strong memory potential and motivation but higher sensitivity to stress, fear conditioning, and excitatory neurotransmitters.

B) WHY THIS MATTERS BIOLOGICALLY

Elevated glutamate with insufficient GABA increases anxiety and impairs sleep. Dopamine receptor density influences reward-seeking behaviors. Stress hormones interact with gut permeability and immune signaling, linking mental health to digestion and inflammation.

C) WHAT YOU CAN DO

Commit to regular cardio, magnesium intake, balanced meals, and sleep consistency. Limit overstimulation. Use movement as a primary nervous system regulator.

D) WHY THIS IS SPECIFIC TO YOU

Based on your reported glutamate–GABA modulation issues, dopamine receptor density, and heightened stress perception, mental health for you is lifestyle-sensitive rather than fixed.

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Detoxification:

A) WHAT THIS MEANS

Your detox systems work but are easier to overwhelm under environmental exposure.

B) WHY THIS MATTERS BIOLOGICALLY

Reduced glutathione protection increases oxidative stress, DNA damage, and hormone disruption. Toxins such as glyphosate, heavy metals, xenoestrogens, and combustion by-products place higher demand on your system. Detox burden feeds directly into immune activation and neurotransmitter imbalance.

C) WHAT YOU CAN DO

Choose organic foods when possible, increase cruciferous vegetables, ensure selenium sufficiency, and support gut integrity. Reduce exposure to smoke, charred foods, and plastics.

D) WHY THIS IS SPECIFIC TO YOU

Your reported reduced detoxification of mercury, arsenic, lead, glyphosate, and aromatic amines means avoidance and nutritional buffering matter more for you than average.

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Nutrient Metabolism & Digestion:

A) WHAT THIS MEANS

You tolerate carbohydrates well but require higher micronutrient density.

B) WHY THIS MATTERS BIOLOGICALLY

Micronutrients drive enzyme function across all systems. Low magnesium, selenium, or choline disproportionately affects your stress response, detoxification, and cognition.

C) WHAT YOU CAN DO

Eat nutrient-dense foods regularly. Avoid ultra-processed foods that displace micronutrients.

D) WHY THIS IS SPECIFIC TO YOU

Your higher magnesium, selenium, choline, and B6 needs increase sensitivity to nutrient-poor diets.

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Immune Support:

A) WHAT THIS MEANS

You have strong viral protection but increased susceptibility to candida and toxin-driven immune activation.

B) WHY THIS MATTERS BIOLOGICALLY

Gut–immune balance regulates inflammation and mental health. When gut flora is disrupted, immune signaling increases and neurotransmitter balance shifts.

C) WHAT YOU CAN DO

Support gut health, manage blood sugar, and reduce toxin exposure.

D) WHY THIS IS SPECIFIC TO YOU

Your FUT2 non-secretor status alters gut–immune interactions, making gut health central rather than secondary.

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DNA Protection & Repair:

A) WHAT THIS MEANS

DNA repair is generally adequate but sensitive to oxidative stress.

B) WHY THIS MATTERS BIOLOGICALLY

Oxidative stress damages DNA faster than repair can occur when antioxidants are insufficient. This links detoxification directly to long-term cellular health.

C) WHAT YOU CAN DO

Ensure antioxidant intake and minimize toxin exposure.

D) WHY THIS IS SPECIFIC TO YOU

Your detox-related oxidative burden makes DNA protection nutrition-dependent.

Cardiovascular Health & Exercise:

A) WHAT THIS MEANS

You benefit disproportionately from cardiovascular exercise.

B) WHY THIS MATTERS BIOLOGICALLY

Exercise stabilizes neurotransmitters, improves insulin sensitivity, supports detoxification, and reduces inflammation.

C) WHAT YOU CAN DO

Aim for regular aerobic exercise combined with resistance training.

D) WHY THIS IS SPECIFIC TO YOU

Your genetic profile shows higher exercise requirements for mood and cognitive stability.

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Grocery List:

This information is educational only - any health changes are to be discussed with a qualified, trusted physician. You're welcome to bring this report to your regular health provider for guidance.

Below is the list of food items that your genetic data indicates would be most beneficial.

Proteins: Eggs, wild salmon, sardines, liver, chicken, turkey, grass-fed beef

Vegetables: Broccoli, Brussels sprouts, spinach, kale, cauliflower, beets

Fruits: Berries, citrus, cherries

Fats: Olive oil, avocado, nuts, seeds

Pantry: Lentils, beans, fermented vegetables & foods.

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Supplement Recommendations:

This information is educational only - any health changes are to be discussed with a qualified, trusted physician. You're welcome to bring this report to your regular health provider for guidance.

Magnesium – supports stress response and neurotransmitter balance for your profile

Selenium – supports glutathione and heavy metal detox pathways

Choline (food-first) – supports methylation, liver, and REM sleep for you

Vitamin C – supports detoxification and antioxidant defence

Cruciferous extracts – support estrogen detoxification pathways

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Things to avoid:

Your genetic results don't just show what supports your health - they also clearly indicate certain inputs that your body handles less efficiently or reacts to more strongly.

"Things to avoid" does not mean permanent restriction, but rather areas where repeated or chronic exposure can create disproportionate stress on your detoxification systems, nervous system, hormones, or mitochondria.

Because genetics influence how resilient or sensitive your systems are, some common modern exposures may have a greater biological cost for you than for others.

Avoidance in this context is about reducing unnecessary burden so your body can allocate resources toward repair, performance, and long-term resilience. When these stressors are minimized, your favorable genetic traits express more consistently and with fewer trade-offs.

1. **Non-organic grains and legumes** – higher glyphosate burden increases oxidative stress, avoiding folic acid (fortified grains).
2. **Plastics and synthetic fragrances** – xenoestrogens strain hormone clearance
3. **Charred or smoked foods** – benzo(a)pyrene detox is reduced
4. **Excess caffeine and sugar** – destabilizes glutamate–GABA balance
5. **Chronic sleep deprivation** – amplifies detox, hormone, and mental health strain

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Disclaimer:

This report is for educational and informational purposes only. It does not provide medical advice, diagnosis, or treatment. Genetic information describes tendencies, not certainties.

Always consult a qualified healthcare professional before making medical or supplement-related decisions.

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Next Steps:

Want to go deeper?

If you'd like to speak with one of our team members about your report (non-medical discussion, educational only), you can book a **30-minute Report Review Call ($179)** with our team by replying to this email or contacting support@bioaxis.com.au.

For further insight, you may also choose to add further functional testing:

We offer 2 blood tests:

1. A Comprehensive Blood Test, or
2. A 'Monitoring' Blood Test

You may also benefit from a **DUTCH Hormone Test**, especially if you don't experience the changes you hope for when implementing the findings in this report. This test can be purchased on our website: https://www.bioaxis.com.au/product-page/dutch-hormone-test

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